

Please amend claims 9, 10, 11, 12, 14, and 19 as attached herewith. Appendix A is a marked-up copy of the claim amendments, while Appendix B is a clean copy of the amended claims.

REMARKS

Claims 9-12, 14-16 and 18-19 are currently pending in the present application. The claims have been amended in the expectation that the amendments will place this application in condition for allowance. The amendments do not introduce new matter within the meaning of 35 U.S.C. § 132. Accordingly, entry of the amendments is respectfully requested.

**1. Rejection of claims 11-13 and 19 under
35 U.S.C. 112, second paragraph**

Claims 11-13 and 19 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses these rejections and requests reconsideration and withdrawal thereof.

Applicant has amended claims 11-12 and 19 to depend from claim 10, instead of canceled claim 2. In addition, Applicant has canceled claim 13, thus removing the claim rejection. Applicant respectfully submits that the claim amendments obviate these rejections and requests reconsideration and withdrawal thereof.

**2. Rejection of claims 10 and 17 under
35 U.S.C. 112, first paragraph**

Claims 10 and 17 stand rejected under 35 U.S.C. 112, first paragraph as being based on a non-enabling specification for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

Applicant has canceled claim 17, thus removing the basis for the rejection thereof. In addition, Applicant has amended claim 10 to remove the language "wherein it is substantially pH independent, but has a redox potential in excess of the redox potential of receiving water." Since the language, which has been removed from the claim, is that language on which the Examiner has based the rejection, Applicant respectfully submits that the claim amendment removes the basis for the rejection of claim 10, and respectfully requests reconsideration and withdrawal thereof.

3. Rejection of Claim 10 under 35 U.S.C 102(b) or 103(a)

Claim 10 stands rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being obvious over JP 7-328628 (the '628 reference) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

To establish an anticipation rejection, every claimed element must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); See also, MPEP § 2131. Applicant respectfully submits that the '628 reference does not teach every claimed element found in independent claim 10, and therefore fails to anticipate the claim.

As amended, claim 10 is an independent claim drawn to a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal. The composition comprises an electro-chemically activated anion-containing aqueous solution **produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.**

The design of the specific cell that is claimed above is to ensure a uniform high voltage electrical field through which each micro-volume of water must pass. The electrical field has a high potential gradient and **results in the creation of**

solutions in which the pH, oxidation/reduction potential and other physicochemical properties are superior to those that are normally achieved using conventional chemical or electrolytic means. Thus, it is an important aspect of the inventive subject matter that the anion-containing aqueous solution be produced by the claimed electrochemical cell.

Applicant respectfully submits that the '628 reference fails to disclose all of the claimed elements detailed above. The '628 reference discloses means for driving the pressure switch of an electrolysis cell while separately recovering alkali water and acidic water from the cell. The reference also discloses means for controlling the gate valve arranged between the pressure switch and the electrolysis cell, as well as means for monitoring the oxidation-reduction potential in both inlet side and outlet side of the cell and means for optimizing the feed water flow based on a feedback signal from the monitors.

Applicant respectfully submits, however, that the '628 reference does not disclose a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal, which is the subject matter to which claim 10 is drawn. Further, Applicant submits that the '628 reference **does not** disclose that the composition comprises an electro-chemically activated anion-containing aqueous solution produced by an electrochemical reactor including a through-flow,

electrochemical cell **having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.** In fact, the '628 reference is completely silent with respect to the above limitations.

Thus, it is apparent that the '628 reference **fails to disclose each and every limitation found in independent claim 10**, and therefore **does not anticipate claim 10** under 35 U.S.C. 102(b).

Turning to the alternative rejection under 35 U.S.C. 103(a), Applicants respectfully submit that, assuming *arguendo* that the reference is modified in accordance with the Examiner's assertions in the Office Action, the resultant product would still not achieve the presently claimed subject matter. In particular, disclosure of the '628 reference would **still lack the limitations set forth above.** In other words, the modified '628 reference would still **not** teach or disclose a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal. In addition, the modifications of the '628 reference would **fail to disclose** an electro-chemically activated anion-containing aqueous solution **produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to**

separate an annular inter-electrode space into a cathodic and an anodic chamber. The benefits of using such an electrochemical reactor are discussed above.

Since the modified '628 reference would not disclose the claimed elements, and there is no motivation to modify the reference, Applicant respectfully submits that claim 10 is not obvious over the '628 reference.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims as being anticipated by, or in the alternative obvious over, the '628 reference.

4. Rejection of Claim 10 under 35 U.S.C 102(b) or 103(a)

Claim 10 stands rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being obvious over WPIDS abstract 1996-096021 (the '021 reference) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

To establish an anticipation rejection, every claimed element must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil*

Co. of California, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); See also, MPEP § 2131. Applicant respectfully submits that the '021 reference does not teach every claimed element found in independent claim 10, and therefore fails to anticipate the claim.

As amended, claim 10 is an independent claim drawn to a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal. The composition comprises an electro-chemically activated anion-containing aqueous solution produced by **an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes** so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

As is stated above, the design of the specific cell that is claimed is to ensure a uniform high voltage electrical field through which each micro-volume of water must pass. The electrical field has a high potential gradient and **results in the creation of solutions in which the pH, oxidation/reduction potential and other physicochemical properties are superior to those that are normally achieved using conventional chemical or electrolytic means.** Thus, it is an important aspect of the inventive subject matter that the anion-containing aqueous solution be produced by the claimed electrochemical cell.

Applicant respectfully submits that the '021 reference fails to disclose all of the claimed elements detailed above. The '021 reference discloses a solution based on the product of electrochemical activation of an aqueous solution of chloride and consists of an anolyte of an aqueous solution of sodium or potassium chloride. The anolyte is obtained in an electrolyser with a cell having an ion-selective membrane and an additional insulated electrode in the anode chamber.

Applicant respectfully submits, however, that the '021 reference does not disclose a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal, which is the subject matter to which claim 10 is drawn. Further, Applicant submits that the '021 reference **does not** disclose that the composition comprises an electro-chemically activated anion-containing aqueous solution produced by an electrochemical reactor **including** a through-flow, electrochemical cell **having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.**

Thus, it is apparent that the '021 reference **fails to disclose each and every limitation found in independent claim 10**, and therefore **does not anticipate claim 10** under 35 U.S.C. 102(b).

Turning to the alternative rejection under 35 U.S.C. 103(a), Applicants respectfully submit that, assuming *arguendo* that the '021 reference is modified in accordance with the Examiner's assertions in the Office Action, the resultant product would still not achieve the presently claimed subject matter. In particular, disclosure of the '021 reference would **still lack the limitations set forth above**. In other words, the modified '021 reference would still **not** teach or disclose a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms **in** a live animal. In addition, the modifications of the '021 reference would **fail to disclose** an electro-chemically activated anion-containing aqueous solution **produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber**. The benefits of using such an electrochemical reactor are discussed above.

Since the modified '021 reference would not disclose the claimed elements, and there is no motivation to modify the reference, Applicant respectfully submits that claim 10 is not obvious over the '021 reference.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims as

being anticipated by, or in the alternative obvious over, the '021 reference.

5. Rejection of Claim 10 under 35 U.S.C 102(b) or 103(a)

Claim 10 stands rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being obvious over Bakhir et al., U.S. Patent No. 5,472,667 (the '667 patent) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

To establish an anticipation rejection, every claimed element must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); See also, MPEP § 2131. Applicant respectfully submits that the '667 patent does not teach every claimed element found in independent claim 10, and therefore fails to anticipate the claim.

As amended, claim 10 is an independent claim drawn to a **composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal.** The

composition comprises an electro-chemically activated anion-containing aqueous solution produced by **an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes** so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

As is stated above with respect to the other anticipation/obviousness rejections, the design of the specific cell that is claimed is to ensure a uniform high voltage electrical field through which each micro-volume of water must pass. The electrical field has a high potential gradient and **results in the creation of solutions in which the pH, oxidation/reduction potential and other physicochemical properties are superior to those that are normally achieved using conventional chemical or electrolytic means.** Therefore, it is an important aspect of the inventive subject matter that the anion-containing aqueous solution be produced by the claimed electrochemical cell.

Applicant respectfully submits that the '667 patent fails to disclose all of the claimed elements detailed above. The '667 patent discloses an apparatus for the electrical treatment of water which can be used for purifying and disinfecting potable water, and for producing detergent and disinfecting solutions. The apparatus comprises at least one electrochemical

cell made up of **an upright cylindrical electrode** and a rod electrode of a variable cross-section mounted coaxially in dielectric sleeves. The apparatus further includes an ultrafiltration diaphragm made from ceramics based on zirconium oxide and coaxially mounted in the sleeves between the electrodes.

Applicant respectfully submits, however, that the '667 patent does not disclose **a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal**. Further, Applicant submits that the '667 patent **does not** disclose that the composition comprises an electro-chemically activated anion-containing aqueous solution produced by an electrochemical reactor **including** a through-flow, electrochemical cell **having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber**.

Thus, it is apparent that the '667 patent **fails to disclose each and every limitation found in independent claim 10**, and therefore **does not anticipate claim 10** under 35 U.S.C. 102(b).

Turning to the alternative rejection under 35 U.S.C. 103(a), Applicants respectfully submit that, assuming *arguendo* that the '667 patent is modified in accordance with the Examiner's assertions in the Office Action, the resultant

product would still not achieve the presently claimed subject matter. In particular, disclosure of the '667 patent would **still lack the limitations set forth above**. In other words, the modified '667 patent would still **not** teach or disclose a composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms **in** a live animal. In addition, the modifications of the '667 patent would **fail to disclose** an electro-chemically activated anion-containing aqueous solution **produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber**.

Since the modified '667 patent would not disclose the claimed elements, and there is no motivation to modify the reference, Applicant respectfully submits that claim 10 is not obvious over the '667 patent.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims as being anticipated by, or in the alternative obvious over, the '667 patent.

6. Rejection of Claim 9 under 35 U.S.C 102(b)

Claim 9 stands rejected under 35 U.S.C. 102(b) as being

anticipated by Morrow, U.S. Patent No. 5,674,537 (the '537 patent) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection and requests reconsideration and withdrawal thereof.

To establish an anticipation rejection, every claimed element must be found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *See also*, MPEP § 2131. Applicant respectfully submits that the '537 patent does not teach every claimed element found in independent claim 9, and therefore fails to anticipate the claim.

As amended, claim 9 is an independent claim drawn to a method of treating pathogenic micro-organisms in a live animal. The method comprises administering a composition comprising an electrochemically activated, anion-containing aqueous solution to the live animal. The electrochemically activated anion-containing aqueous solution **is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-**

electrode space into a cathodic and an anodic chamber.

As is stated above with respect to the other anticipation/obviousness rejections, the design of the specific cell that is claimed is to ensure a uniform high voltage electrical field through which each micro-volume of water must pass. The electrical field has a high potential gradient and **results in the creation of solutions in which the pH, oxidation/reduction potential and other physicochemical properties are superior to those that are normally achieved using conventional chemical or electrolytic means.** Therefore, it is an important aspect of the inventive subject matter that the anion-containing aqueous solution be produced by the claimed electrochemical cell.

Further, on page 7 of the Office Action, the Examiner states "while Morrow does not expressly state in verbatim language that his electrolyzed solution is an "anion containing solution," applicant grossly overestimates the significance of this term." Applicant respectfully traverses this assertion by the Examiner. Applicant has found that the anolyte produced **according to the electrolytic cell arrangement as claimed** has different properties than anolytes produced by other electrolytic activation means, such as plate-type reactors. More particularly, Applicant can show that the anolyte of the present inventive subject matter **is indeed effective in the**

treatment of certain pathogenic microorganisms in live animals where anolytes produced by other means **have failed in the same applications.** Thus, Applicant respectfully submits that the significance of the **claimed** anion containing solution is **not** overestimated in this case.

Turning now to the rejection, Applicant respectfully submits that the '537 patent fails to disclose all of the claimed elements detailed above. The '537 patent discloses the use of electrolyzed sodium chloride to treat a host animal for pathogenic diseases, where electrolysis is used to produce ozone and various oxychlorine species such as hypochlorous acid and hypochlorite.

Applicant respectfully submits, however, that the '667 patent does not disclose administering a composition comprising an electrochemically activated, **anion-containing** aqueous solution to the live animal, wherein the electrochemically activated anion-containing aqueous solution **is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.**

Thus, it is apparent that the '537 patent **fails to disclose each and every limitation found in independent claim 9,** and

therefore **does not anticipate claim 9** under 35 U.S.C. 102(b).

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims as being anticipated by the '537 patent.

7. Rejection of Claims 9, 10, 14-16 and 18
under 35 U.S.C. § 103(a)

The Official Action states that claims 9, 10, 14-16 and 18 are rejected under 35 U.S.C. § 103(a) as being obvious over the combined teachings of WPIDS abstract 1996-096021 (the '021 reference), Bahkir et al. U.S. Patent No. 5,427,667 (the '667 patent) and Morrow U.S. Patent No. 5,674,537 (the '537 patent) in view of Imai (BR 9201704), Fraser et al. (The Merck Veterinary Manual), VETU Abstracts 1985-63045, 1988-60359 and 1994-62049 and Kroschwitz et al. (Kirk-Othmer Encyclopedia of Chemical Technology) for the reasons set forth in the Office Action.

RESPONSE

Applicant respectfully traverses this rejection. The references of record do not teach or suggest applicant's inventive subject matter as a whole as recited in the claims. The Examiner has failed to establish a *prima facie* case of obviousness against the presently rejected claims.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art

at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharm. Co.*, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art reference must teach or suggest all the limitations of the claims. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

As is indicated above with respect to the anticipation rejections, independent claims 9 and 10 **both** include the limitation of a composition comprising an electrochemically activated, anion-containing aqueous solution **produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.**

The use of the electrolytic cell of the present claims provides the ability to **consistently** produce two or more distinct, separate and electrochemically different product streams of activated water of specific quality **as well as unique and proven attributes** with no adverse environmental effects or consequences. This **significantly differentiates** the electrolytic technology of the present claims from the previous

electrolytic devices. As is stated above, the design of the specific cell that is claimed is to ensure a uniform high voltage electrical field through which each micro-volume of water must pass. The electrical field has a high potential gradient and **results in the creation of solutions in which the pH, oxidation/reduction potential and other physicochemical properties are superior to those that are normally achieved using conventional chemical or electrolytic means.**

One of the advantages of the design of the specific cylindrical cell utilized in the claims is that the chemical composition of the two solutions produced by the electrolytic cell can be altered by utilizing various hydraulic flow arrangements, linking electrolytic cell modules in various configurations in order optimally to address the requirements of specific areas of application. Some other variables are flow rate, hydraulic pressure, concentration, temperature, current density, and voltage on the electrodes.

Aside from its distinctive attributes, the negatively charged anti-oxidant solution, i.e. the catholyte, can also be channeled back into the anode chamber, thereby modulating the quality of the positively charged oxidant solution, i.e. the anolyte that is produced. Depending on the specifications of the required application, variations in the design of the hydraulic systems can be effected to meet the requisite objectives.

Thus, it can be seen that the use of the particular electrolytic cell in the present claims is an important

limitation for this application. Applicant respectfully submits that each of the references of record fail to teach this critical limitation of the independent claims, and therefore also of the dependent claims.

The '021 reference discloses a solution based on the product of electrochemical activation of an aqueous solution of chloride and consists of an anolyte of an aqueous solution of sodium or potassium chloride. The anolyte is obtained in an electrolyser with a cell having an ion-selective membrane and an additional insulated electrode in the anode chamber.

The '667 patent discloses an apparatus for the electrical treatment of water which can be used for purifying and disinfecting potable water, and for producing detergent and disinfecting solutions. The apparatus comprises at least one electrochemical cell made up of **an upright cylindrical electrode** and a rod electrode of a variable cross-section mounted coaxially in dielectric sleeves. The apparatus further includes an ultrafiltration diaphragm made from ceramics based on zirconium oxide and coaxially mounted in the sleeves between the electrodes.

The '537 patent discloses the use of electrolyzed sodium chloride to treat a host animal for pathogenic diseases, where electrolysis is used to produce ozone and various oxychlorine species such as hypochlorous acid and hypochlorite.

Applicant respectfully submits, however, that these references fail to render obvious the claims because the combination of them fails to teach the inventive subject matter as claimed. In particular, any combination of the primary references would fail to teach a composition comprising an electrochemically activated, **anion-containing** aqueous solution to the live animal, wherein the electrochemically activated anion-containing aqueous solution **is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.** This composition and its further limitations are important in the independent claims under consideration, and the fact the references fail to teach the limitation means that the Examiner has failed to make a *prima facie* case of obviousness.

The Examiner lists a number of secondary references in order to complete the obviousness rejection. However, Applicant respectfully submits that the secondary references also fail to teach the missing limitations of the claimed invention.

Imai teaches spraying hypochlorite to open areas, foodstuffs, and the like to control cholera epidemics. Fraser discloses the use of chlorine compounds as a disinfectant, for

example in disinfecting water supplies, while the VETU abstracts disclose the use of sodium hypochlorite to disinfect swine pens. Kroschwitz teaches the use of an electrolytic reactor. However, the secondary references also fail to teach a composition comprising an electrochemically activated, **anion-containing** aqueous solution to the live animal, wherein the electrochemically activated anion-containing aqueous solution **is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber** and therefore do not provide the missing elements from the primary references.

Applicant respectfully submits that the combination of the primary references with the secondary references fails to render obvious the presently claimed subject matter. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the claims as being obvious over the references of record.

CONCLUSION

Claims 9-12, 14-16, and 18-19 are currently pending in the present application. Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections of the claims and allow all pending claims presented herein.

Respectfully submitted,
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Date:

January 27, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HINZE

Serial No: 09/529,734

Examiner: J. Pak

Filed: June 19, 2000

Art Unit: 1616

For: **USE OF AN AQUEOUS SOLUTION IN THE PREPARATION OF A
MEDICAMENT FOR USE IN THE TREATMENT OF LIVE ANIMALS**

Appendix A - Marked-up Copy of Claim Amendments

Please cancel claims 13 and 17 without prejudice or disclaimer to the subject matter contained therein. P

Please amend claims 9, 10, 11, 12, 14, and 19 as follows.

9. (Amended) A method of treating pathogenic micro-organisms in a live animal, comprising administering a composition comprising an electrochemically activated, anion-containing aqueous solution to said live animal, wherein the electrochemically activated anion-containing aqueous solution is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

10. (Amended) A composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal, the composition comprising an electro-chemically activated anion-containing aqueous solution [characterised wherein it is substantially pH independent, but has a redox potential in excess of the redox potential of receiving water] produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

11. (Amended) A composition according to claim [2] 10 characterised wherein it has a redox potential of more than +400 mV.

12. (Amended) A composition according to claim [2] 10 characterised wherein the anion-containing aqueous solution is prepared by means of electrolysis of an aqueous solution of a salt.

14. (Amended) A method of treating respiratory and gastrointestinal pathogenic micro-organisms in a live animal, the method including the step of administering a dosage of a

composition comprising an electrochemically activated, anion-containing aqueous solution to the animal, wherein the electrochemically activated anion-containing aqueous solution is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

19. (Amended) A composition according to claim [2] 10 characterised wherein it has a redox potential of between +600 mV and +800 mV.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HINZE

Serial No: 09/529,734

Examiner: J. Pak

Filed: June 19, 2000

Art Unit: 1616

For: **USE OF AN AQUEOUS SOLUTION IN THE PREPARATION OF A
MEDICAMENT FOR USE IN THE TREATMENT OF LIVE ANIMALS**

Appendix B - Clean Copy of Amended Claims

Please cancel claims 13 and 17 without prejudice or disclaimer to the subject matter contained therein.

Please amend claims 9, 10, 11, 12, 14, and 19 as follows.

B-1 9. (Amended) A method of treating pathogenic micro-organisms in a live animal, comprising administering a composition comprising an electrochemically activated, anion-containing aqueous solution to said live animal, wherein the electrochemically activated anion-containing aqueous solution is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

10. (Amended) A composition for the preparation of a medicament for use in the treatment of pathogenic micro-organisms in a live animal, the composition comprising an electro-chemically activated anion-containing aqueous solution produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

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cont

11. (Amended) A composition according to claim 10 characterised wherein it has a redox potential of more than +400 mV.

12. (Amended) A composition according to claim 10 characterised wherein the anion-containing aqueous solution is prepared by means of electrolysis of an aqueous solution of a salt.

B2 14. (Amended) A method of treating respiratory and gastrointestinal pathogenic micro-organisms in a live animal, the method including the step of administering a dosage of a composition comprising an electrochemically activated, anion-containing aqueous solution to the animal, wherein the

electrochemically activated anion-containing aqueous solution is produced by an electrochemical reactor including a through-flow, electrochemical cell having two co-axial cylindrical electrodes with a co-axial diaphragm between the electrodes so as to separate an annular inter-electrode space into a cathodic and an anodic chamber.

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cont 19. (Amended) A composition according to claim 10 characterised wherein it has a redox potential of between +600 mV and +800 mV.